

## Title (en)

A VEHICLE COMPRISING A WORKING EQUIPMENT, A WORKING EQUIPMENT, AND A METHOD IN RELATION THERETO

## Title (de)

FAHRZEUG MIT EINER ARBEITSAUSRÜSTUNG SOWIE EINE ARBEITSAUSRÜSTUNG UND EIN VERFAHREN IM ZUSAMMENHANG DAMIT

## Title (fr)

VÉHICULE COMPRENANT UN ÉQUIPEMENT DE TRAVAIL, ÉQUIPEMENT DE TRAVAIL ET PROCÉDÉ ASSOCIÉ

## Publication

**EP 3718820 A1 20201007 (EN)**

## Application

**EP 20163558 A 20200317**

## Priority

SE 1950427 A 20190405

## Abstract (en)

A vehicle (2) comprising a working equipment (4) equipped with a movable loading arrangement (5) comprising a first attachment member (7), said vehicle further comprises a sensor system (6) configured to capture environmental data reflecting the environment around the vehicle and to determine, based on said data, image data (8) representing an area at least partly surrounding the vehicle (2). The sensor system (6) is configured to detect and track positions of the first attachment member (7) and a mating second attachment member (9) of the object (20) to load in said image data representation, and, the detected and tracked positions of the first and second attachment members (7, 9) are used to generate a first set of operation instructions for the loading arrangement (5) of the working equipment that decreases the distance between said first and second attachment members such that said attachment members (7, 9) come into position to engage to each other. The control unit 16 is configured to verify that said attachment members (7, 9) are engaged based on the detected and tracked positions from the sensor system (6), and in response to verifying that said attachment members (7, 9) are engaged, enable activation of an object loading mode in which the control system generates a second set of operation instructions for the working equipment to move the loading arrangement (5) so that the object to load is loaded on the vehicle.

## IPC 8 full level

**B60P 1/54** (2006.01); **B60P 1/64** (2006.01); **B66C 13/46** (2006.01)

## CPC (source: EP SE US)

**B25J 9/1694** (2013.01 - SE); **B60P 1/54** (2013.01 - EP); **B60P 1/6463** (2013.01 - EP); **B66C 13/46** (2013.01 - EP); **B66C 13/48** (2013.01 - US); **B66C 23/36** (2013.01 - SE); **G05D 1/0094** (2024.01 - US); **G05D 1/243** (2024.01 - SE); **G06V 20/56** (2022.01 - US); **B65G 69/00** (2013.01 - SE); **B66C 2700/08** (2013.01 - US)

## Citation (applicant)

- US 2017369101 A1 20171228 - SOMMER MARTIN [DE], et al
- US 2016378118 A1 20161229 - ZENG SHUQING [US], et al
- US 2016075281 A1 20160317 - SINGH HARPREET [GB], et al
- DE 10350923 A1 20050525 - DAIMLER CHRYSLER AG [DE]
- US 2018039278 A1 20180208 - HÜGER PHILIPP [DE], et al
- US 2008024608 A1 20080131 - HAHN WOLFGANG [DE], et al

## Citation (search report)

- [A] WO 2018186790 A1 20181011 - CARGOTEC PATENTER AB [SE]
- [A] WO 2017108764 A1 20170629 - HYVA HOLDING BV [NL]
- [A] EP 3153348 A1 20170412 - FRANZ XAVER MEILLER FAHRZEUG- UND MASCHF - GMBH & CO KG [DE]
- [A] WO 2013180622 A1 20131205 - SCANIA CV AB [SE]

## Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

## Designated extension state (EPC)

BA ME

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## DOCDB simple family (application)

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